What is claimed is:

1. A hand-held laser flashlight comprising:

a housing having a light emission surface;

a coherent light source disposed within the housing, said coherent light source emitting a coherent light beam;

a power supply coupled to said coherent light source;

an optical system disposed within said housing, said optical system having an optical system input and an optical system output, wherein said coherent light beam enters through said optical system input, and wherein a laser beam with a substantially gaussian spatial profile exits through said optical system output; and

a beam expander disposed within said housing, said beam expander having a beam expander input and a beam expander output, wherein said laser beam enters through said beam expander input, and wherein an intensity controlled light beam exits through said beam expander output and through said light emission surface, said intensity controlled light beam having a beam intensity of less than 26 mW/cm^2.

2. A hand-held laser flashlight comprising:

a housing having a light emission face;

a diode light source disposed within the housing, said diode light source emitting a coherent light beam toward said light emission face along an optical axis;

a power supply coupled to said diode light source;

an optical system disposed within the housing along the optical axis intermediate said diode light source and said light emission face, said optical system outputting a laser beam toward said light emission face with a substantially gaussian spatial profile; and

a light transmissive beam expander disposed along the optical axis intermediate said optical system and said light emission face, the laser beam

traversing said light transmissive beam expander and exiting an exit surface of said light transmissive beam expander as an output laser beam, said light transmissive beam expander configured to limit a beam intensity corresponding to said output laser beam to less than 26 mW/cm^2.

3. The laser flashlight of claim 2, wherein the diode light source is comprised of a plurality of laser diodes.

4. The laser flashlight of claim 2, wherein the optical system further comprises a resonator, said resonator comprised of an active gain element pumped by the diode light source.

5. The laser flashlight of claim 4, said resonator further comprising a harmonic generating crystal, the active gain element receiving the coherent light beam emitted by the diode light source and emitting an intermediate laser beam having an intermediate wavelength, wherein said harmonic generating crystal shifts the intermediate wavelength to an output wavelength corresponding to the output laser beam.

6. The laser flashlight of claim 4, further comprising:

an optically transmissive heat conductive element in thermal contact with said active gain element; and

a heat sink in thermal contact with said optically transmissive heat conductive element.

7. The laser flashlight of claim 6, wherein the optically transmissive heat conductive element has opposed first and second end surfaces, said first and second end surfaces coated with an anti-reflection coating.

8. The laser flashlight of claim 5, wherein the active gain element is a laser crystal having opposed first and second axially spaced end surfaces, the first end surface of the laser crystal facing the diode light source and

coated for high transmission at a wavelength corresponding to the coherent light beam and for high reflectivity at the intermediate and output wavelengths.

9. The laser flashlight of claim 5, wherein the resonator further includes an output coupler having an input end surface coated for high reflectivity at the intermediate wavelength and for high transmission at the output wavelength.

10. The laser flashlight of claim 4, wherein the resonator further includes an output coupler having an input end surface coated for partial reflectivity at the output laser beam wavelength.

11. The laser flashlight of claim 5, wherein the resonator further comprises an optically transmissive harmonic mirror element axially disposed intermediate the active gain element and the harmonic generating crystal, the harmonic mirror having opposed first and second axially spaced end surfaces, the second end surface of the harmonic mirror facing the harmonic generating crystal and being coated for high transmission at the intermediate wavelength and for high reflectivity at the output wavelength.

12. The laser flashlight of claim 5, wherein the harmonic generating crystal has an end surface facing the active gain element, the end surface of the harmonic generating crystal being coated for high transmission at the intermediate wavelength and for high reflectivity at the output wavelength.

13. The laser flashlight of claim 5, wherein the harmonic generating crystal has a substantially flat first end surface and a convex-shaped second end surface, the first end surface facing the active gain element.

14. The laser flashlight of claim 2, wherein the light transmissive beam expander further comprises at least one collimating lens and a gradient index or aspheric lens disposed along the optical axis.

15. The laser flashlight of claim 3, wherein the diode laser source further comprises an optical fiber disposed intermediate the diode laser source and the optical system.

16. The laser flashlight of claim 2, wherein the diode laser source further comprises a diode array and a collimating lens for receiving, collimating and transmitting the coherent light beam emitted by the diode laser source.

17. The laser flashlight of claim 2, wherein the optical system further comprises an optical fiber having a first end for receiving the coherent light beam emitted by the diode laser source and a second end for transmitting the coherent light beam to the light transmissive beam expander.

18. The laser flashlight of claim 17, wherein the light transmissive beam expander comprises a gradient index or aspheric lens.

19. The laser flashlight of claim 2, further comprising means for pulsing the output laser beam.

20. The laser flashlight of claim 2, wherein the output laser beam has a spatial profile that is substantially TEM_{00} mode.

21. A laser flashlight comprising:

a housing having a light emitting end;

an emitter disposed within the housing emitting a coherent light toward the light emitting end of the housing along an optical axis upon the application of electricity;

a power supply for selectively applying electricity to the emitter;

an optical resonator disposed within the housing and along the optical axis, the optical resonator intermediate the emitter and the light emitting end of the housing, the optical resonator comprising:

a laser element pumped by the emitter;

a frequency converter; and

coupling optics, the optical resonator producing an output laser beam with a spatial profile that is substantially TEM_{00} mode; and

a light transmissive beam expander disposed proximate to the light emitting end of the housing and along the optical axis, the light transmissive beam expander receiving and dispersing the output laser beam, wherein said light transmissive beam expander is configured to limit a beam intensity corresponding to said output laser beam to less than 26 mW/cm^2.

22. The laser flashlight of claim 21, wherein the frequency converter comprises at least one harmonic generating crystal.

23. A laser flashlight comprising:

housing means, said housing means having a light emitting end;

means disposed within the housing means for emitting a coherent light toward the light emitting end of the housing means along an optical axis;

means for selectively applying electricity to the coherent light emitting means;

means disposed within the housing means for receiving the coherent light and emitting an output laser beam with a spatial profile that is substantially TEM_{00} mode; and

means disposed proximate to the light emitting end for receiving and dispersing the output laser beam, said receiving and dispersing means configured to limit an intensity corresponding to said output laser beam to less than 26 mW/cm^2.

24. The laser flashlight of claim 23, further comprising means for pulsing the output laser beam.

25. The laser flashlight of claim 24, wherein the means for pulsing the output laser beam selectively interrupts the output laser beam to produce intermittent asymmetric laser beam pulses.